

LISTING OF CLAIMS

Please amend the claims as set forth. This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) An electroconductive contact probe, comprising:
a holder member comprising a plurality of layers of support members and defining a plurality of holder holes passed across a thickness of said holder member;
an electroconductive coil spring received in each of said holder holes, each electroconductive spring having a natural length in an uncompressed state;
an electroconductive contact member provided on either axial end of said coil spring;
an engagement portion provided in each of said holder holes for preventing at least one of said contact members from coming off from said holder hole and allowing a certain length of said one contact member projecting out of the corresponding holder hole;
said electroconductive coil springs being installed in said holder holes such that each electroconductive coil spring extends by its natural length under a rest condition of said contact member.
2. (Original) An electroconductive contact probe according to claim 1, wherein said contact members on either axial end of each coil spring comprise needle members.
3. (Original) An electroconductive contact probe according to claim 2, wherein a pair of engagement portions are provided in either axial end of each holder hole to prevent both of said needle members from coming off from said holder hole.
4. (Original) An electroconductive contact probe according to claim 2, wherein an engagement portion is provided in only one of two axial ends of each holder hole to prevent the corresponding needle member from coming off from said holder hole.
5. (Previously presented) An electroconductive contact probe according to claim 1, wherein said contact member on one of said axial ends of each coil spring comprises a needle member, and the contact member on the other axial end of said coil spring consists of a coil end of said coil spring, said engagement portion being provided in each holder hole only to prevent said needle member from coming off.

6. (Previously presented) An electroconductive contact probe according to claim 1, wherein said engagement portion is provided in each of said holder holes for preventing only one of said contact members for each of said coil springs from coming off from said holder hole, and the other contact member is installed substantially flush with the outer surface of the holder member.

7. (Original) An electroconductive contact probe according to claim 1, wherein said engagement portion comprises a shoulder defined in each holder hole.

8. (Previously presented) An electroconductive contact probe according to claim 7, wherein said shoulder is defined between adjoining two of said support members having holder holes which are coaxial to each other but having different diameters formed therein.

9. (Canceled)

10. (Previously presented) An electroconductive contact probe system, comprising:

an electroconductive contact probe having a first axial end and a second axial end, the probe further comprising an electroconductive coil spring and a first electroconductive contact member disposed on the first axial end, wherein the length of the probe is decreased when a load is applied to the coil spring and wherein each coil spring extends a natural length in an uncompressed state;

a holder member having a first surface and a second surface, the holder member comprising a plurality of layers of support members and a holder hole extending along a thickness of said holder member and an engagement portion;

wherein:

the probe is disposed in the holder hole, and the engagement portion can prevent the probe from sliding out of the holder hole through the first surface; and

the length of the probe when disposed in the holder hole is substantially the same as the length of the probe when no load is applied to the coil such that each electroconductive coil spring extends its natural length if no load is applied to the coil.

11. (Previously presented) The electroconductive contact probe system of claim 10, wherein the probe further comprises: 1) a flange portion having a first diameter adjacent the first electroconductive member, and 2) a second electroconductive contact member,

wherein the second contact member comprises a needle having a tip portion disposed on the second axial end.

12. (Cancelled)

13. (Previously presented) The electroconductive contact probe system of claim 11, wherein the first electroconductive contact member has a second diameter, and the engagement portion comprises a hole having a third diameter that is: 1) less than the first diameter, and 2) greater than the second diameter.

14. (Previously presented) The electroconductive contact probe system of claim 11, wherein the engagement portion comprises a shoulder portion that engages the flange portion.

15. (Previously presented) The electroconductive contact probe system of claim 10, wherein the electroconductive coil spring further comprises a closely wound portion and a coarsely wound portion.

16. (Cancelled)

17. (Canceled)

18. (Previously presented) The electroconductive contact probe system of claim 10, wherein the engagement portion comprises a shoulder portion defined by a first hole of a first diameter in a first adjoining layer of said plurality of layered support members, and a second hole of a second diameter in a second adjoining layer of said plurality of layered support members.

19. (Canceled)

20. (Previously presented) An electroconductive contact probe, comprising:
a holder member comprising at least one layer of a support member defining a plurality of holder holes passed across a thickness of said holder member;
an electroconductive coil spring received in each of said holder holes;
an electroconductive contact member provided on each axial end of said coil spring;
an engagement portion provided in each of said holder holes for preventing one of said contact members from coming off from said holder hole and allowing a certain length of said

one contact member projecting out of the corresponding holder hole; and

a circuit board layered on a side of the holder member facing away from the one contact member;

said electroconductive coil springs being installed in said holder holes such that each electroconductive coil spring extends by its natural length under a rest condition of said contact member.

21. (Previously presented) An electroconductive contact probe according to claim 20, wherein said contact members on either axial end of each coil spring comprise needle members.

22. (Previously presented) An electroconductive contact probe according to claim 21, wherein an engagement portion is provided in only one of two axial ends of each holder hole to prevent the corresponding needle member from coming off from said holder hole.

23. (Previously presented) An electroconductive contact probe according to claim 20, wherein said contact member on one of said axial ends of each coil spring comprises a needle member, and the contact member on the other axial end of said coil spring consists of a coil end of said coil spring, said engagement portion being provided in each holder hole only to prevent said needle member from coming off.

24. (Previously presented) An electroconductive contact probe according to claim 20, wherein said engagement portion is provided in each of said holder holes for preventing only one of said contact members for each of said coil springs from coming off from said holder hole, and the other contact member is installed substantially flush with the outer surface of the holder member.

25. (Previously presented) An electroconductive contact probe according to claim 20, wherein said engagement portion comprises a shoulder defined in each holder hole.